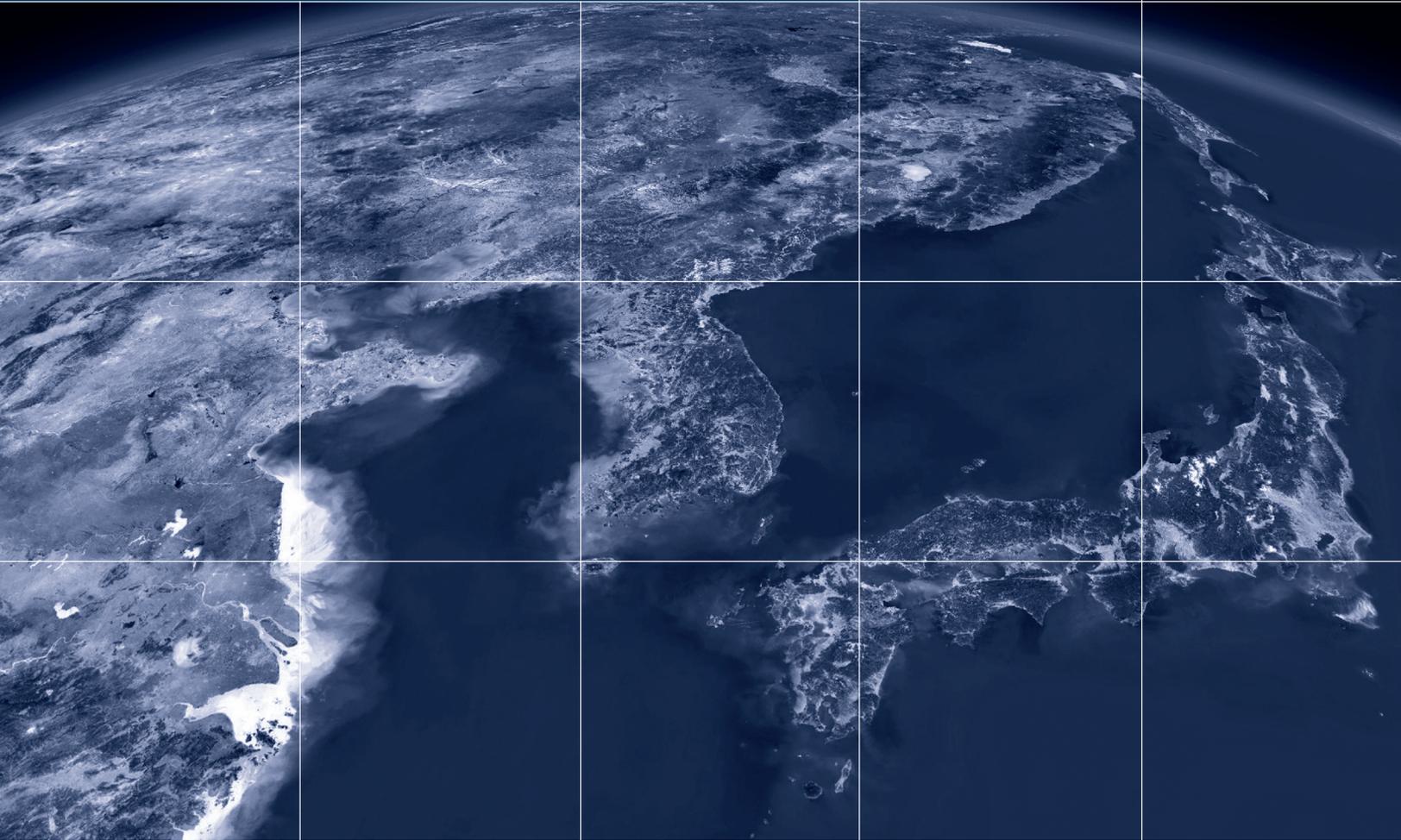




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SECURITY SPILLOVER

Regional Implications of Evolving Deterrence on the Korean Peninsula

**Toby Dalton, Narushige Michishita,
and Tong Zhao**

JUNE 2018



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Summary

Regardless of the prospects of denuclearizing North Korea, the United States and South Korea (ROK) are likely to continue strengthening capabilities to deter North Korean coercive behavior. Yet, as they do this, it will become increasingly important to assess the regional implications of their actions. Their efforts have already had, and will continue to have, broad spillover effects, potentially creating new tensions with China and complicating alliance relations with Japan. All of the prospective deterrence options could fuel misperception and lead to further instability in the region.

The Current Situation

- Long-range ballistic missiles now enable North Korea to target the United States' mainland with nuclear weapons, threatening the credibility of the U.S. commitment to South Korea's defense.
- Yet defense analysts in South Korea, the United States, Japan, and China have different perceptions of North Korea's objectives, contributing to uncertainty around the prioritization and effects of potential responses.
- To guard against potential nuclear coercion, Seoul and Washington could deploy new weapons to strike targets in North Korea, build new missile defense systems, and/or station more U.S. nuclear assets in or around South Korea, among other options.
- However, as recent events demonstrate, any option is likely to elicit a regional reaction. In response to Seoul's decision to permit the United States to deploy the Terminal High-Altitude Area Defense (THAAD) system, China levied informal economic penalties against South Korea in 2017 and warned against any future actions that threaten China's security.

Weighing Options

- Augmenting U.S. and South Korean offensive weapon systems could flexibly support both preemptive and retaliatory strikes, but ambiguity about the purpose of such weapons could exacerbate crisis instability.

- Strengthening U.S. extended nuclear deterrence, especially through stationing U.S. tactical nuclear weapons on the peninsula, would have broad, long-term effects in the region. And Beijing would most likely view it as part of a geostrategic strategy to contain China.
- Augmenting deterrence against North Korean tactical provocations is less likely to provoke regional reactions than other offensive or defensive options.
- Japan worries about U.S. disengagement from the region and favors enhancing U.S.-ROK-Japan cooperation, whereas China sees such trilateral engagement as a clear threat.
- Having failed to dissuade South Korea from approving the deployment of THAAD, China may exercise stronger retaliatory measures in response to future perceived geostrategic actions.
- Regional track 1.5 or track 2 dialogues could reduce or mitigate long-standing regional distrust by improving the understanding of threat perceptions and other security concerns, as well as helping to recognize when and how future crises might manifest.

Introduction

In 2013, concerned by the growing threat of North Korea's ballistic missiles to U.S. military personnel and assets stationed in East Asia, U.S. officials approached their South Korean counterparts about stationing Terminal High-Altitude Area Defense (THAAD) missile defense batteries and associated radar systems on South Korean territory. After a protracted and contentious debate, in 2016, the South Korean government announced its decision to proceed with THAAD deployment despite loud “not in my backyard” opposition from residents in Seongju, the site selected for the new system. But the controversy did not end there. The decision reverberated throughout the region.

As South Korean officials weighed the decision to deploy THAAD, Chinese officials voiced concern that the THAAD radar would bolster the ability of U.S. missile defense systems to target Chinese missiles, which they argued constituted a threat to China's strategic security interests.¹ Chinese concerns evolved into public threats as Seoul inched closer to a THAAD deployment decision. For example, in a meeting with South Korean corporate executives in December 2016, a Chinese foreign ministry official stated that “China would take measures that would come close to breaking off diplomatic ties.”² Following the South Korean decision to proceed with THAAD, China instituted a range of soft yet highly punitive economic sanctions against South Korea and several of its private companies. Chinese tourism to South Korea came to a halt following the institution of a de facto travel ban by Beijing.³ Using intrusive regulatory tactics, such as targeted tax investigations and safety inspections, China forced the closure of nearly all of the South Korean-owned Lotte Mart stores in China, aiming to punish the conglomerate that had agreed to turn over land for the THAAD site.⁴ According to trade figures, exports of South Korean automobiles, cosmetics, and other commodities to China plummeted in 2017.⁵ A report by the Hyundai Research Institute estimated that China's economic retaliation for THAAD cost the Korean economy \$7.6 billion in 2017.⁶ In late 2017, following quiet diplomatic work by the South Korean and Chinese governments to patch relations, China began to back off these punitive measures in return for South Korean promises to limit certain future missile defense activities and to not enter into trilateral defense arrangements with the United States and Japan.⁷

The THAAD episode is likely a harbinger of regional security challenges to come in East Asia. Advances in North Korea's nuclear and missile capabilities, especially since 2015, have changed the character of deterrence on the Korean Peninsula. As the United States and its allies South Korea and Japan consider responses to the evolving threat from Pyongyang, they risk provoking reactions by China and Russia, thus deepening security dilemmas throughout the region.

Since the beginning of 2018, a diplomatic thaw and unprecedented summitry reduced military tensions and created new hope for a negotiated solution to the challenges presented by North Korea's pursuit of nuclear and missile capabilities. However, even if a denuclearization process is initiated, North Korea will continue to possess nuclear weapons for the immediate future. In

the meantime, the United States, South Korea, and Japan will continue to maintain and perhaps strengthen measures to ensure the credibility of deterrence and to ward against provocations. If diplomacy breaks down, deterrence will again be the primary means of security management in the region.

North Korea's ability to target not just South Korea or even U.S. military bases in East Asia with nuclear weapons, but now also the U.S. mainland, raises a critical question for policymakers: could this capability embolden more aggressive North Korean behavior? Many South Korean, Japanese, and U.S. officials and experts believe it

might. Prudence suggests, therefore, that the allies weigh options to augment defensive and offensive military capabilities to deter future North Korean acts of aggression or coercion. Among other imperatives, Seoul, Washington, and Tokyo need to (1) manage escalation risks arising from low-level provocations; (2) avoid scenarios that could result in first use of nuclear weapons (accidental, unintended, or otherwise); (3) deter interwar escalation; and (4) mitigate the possibility of alliance decoupling should North Korea threaten nuclear attacks on the continental United States.

Addressing three interrelated questions could help to identify, and prepare for, the potential cascading security effects of evolving deterrence on the Korean Peninsula: What are North Korea's nuclear capabilities and what would its objectives be in using them? What options do South Korea and the United States—individually, through their bilateral military alliance, and in some cases, with Japan—have to respond to this changing threat? And what are the implications of an action-reaction sequence for security in East Asia?

Based on discussions and interviews with dozens of officials and experts in China, Japan, South Korea, and the United States, this paper explores North Korea's nuclear capability and how it could shape future security in the region. It also considers various notional options that the United States and South

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Korea (and, in some cases, Japan) could adopt to maintain credible deterrence and guard against nuclear coercion, as well as the possible reactions of Beijing and Tokyo to these options. (Because of its alliance with the United States, Japan is inherently involved in the deterrence of North Korea and will be affected by changes in the regional security environment resulting from U.S.–Republic of Korea, or ROK, actions.) China’s response to the THAAD deployment has made it clear that second-order effects of North Korea’s nuclearization can reverberate throughout the region. Understanding when and why such reverberations might occur is critical to assuring a more secure future for states and polities in East Asia. The analysis could usefully inform potential actions and help determine whether they would stabilize the region or exacerbate existing security dilemmas.

North Korean Nuclear Capabilities

North Korea’s pace of nuclear and ballistic missile testing in recent years demonstrated a faster-than-predicted advancement in its capabilities, while Pyongyang’s prolific propaganda provided analysts considerable insight into the underlying technological achievements and the nuclear program’s future direction. Of course, there are still large knowledge gaps, particularly related to the program’s developmental hurdles, which systems are fully operational, and how these systems might be used. One can assume, however, that similar to other states that have developed nuclear capabilities, North Korea is now faced with resolving tension between the consolidation of technical progress and the achievement of its diplomatic and political objectives. Thus, as the picture of its technical capabilities becomes clearer, so too will its objectives.

Assessing North Korea’s Nuclear Arsenal

It is widely assessed that North Korea is capable of building fission and even boosted fission weapons and fashioning these into warheads. An analysis by the U.S. Defense Intelligence Agency, for instance, reportedly concluded in July 2017 that North Korea successfully produced a miniaturized nuclear warhead that can be installed onto its ballistic missiles.⁸ North Korea also claims to have successfully conducted hydrogen bomb tests and has published pictures of what appears to be a model of a two-stage thermonuclear device. After six nuclear tests, North Korean scientists likely understand the technology to manufacture hydrogen weapons, although their capability to miniaturize the design or produce the weapons serially and reliably remains uncertain.⁹

Much remains unknown about the types and amounts of fissile material utilized in North Korea’s nuclear weapon designs. In 2016, a widely cited assessment conducted by former Los Alamos National Laboratory director Siegfried Hecker and colleagues concluded that North Korea is annually producing

fewer than 6 kilograms of plutonium and about 150 kilograms of highly enriched uranium (HEU).¹⁰ Hecker estimated that, by the end of 2017, North Korea could possess 20–40 kilograms of plutonium and 250–500 kilograms of HEU—which is sufficient for roughly twenty-three to thirty nuclear weapons—and might be producing an additional six to seven weapons' worth of fissile material every year.¹¹ Other Western nongovernmental entities estimated similar ranges.¹² Interestingly, government estimates were slightly higher. For example, a South Korean Ministry of National Defense assessment estimated the North Korean plutonium stockpile at around 50 kilograms by the end of 2016.¹³ The U.S. Defense Intelligence Agency concluded in July 2017 that North Korea could already possess up to sixty nuclear weapons and could produce twelve more weapons every year.¹⁴

In 2013, the pace of North Korea's ballistic missile development activities accelerated sharply. Since then, it has tested various new systems of increasing range and with different engine technologies and designs. Most notably, in 2017, North Korea tested the Hwasong-14 (KN-20) twice and then surprised the world by conducting a first test launch of the larger Hwasong-15 (KN-22). Although it is unclear whether either of these intercontinental ballistic missiles (ICBMs) is intended for production and operational capability, most analysts believe they could deliver nuclear warheads to the continental United States. And the chairman of the U.S. Joint Chiefs of Staff affirmed during testimony that policymakers should “assume now that North Korea has the capability” to do so.¹⁵ Even if North Korea still lacks the capability to resolve remaining technical obstacles, such as a re-entry vehicle able to withstand intercontinental travel, these obstacles can eventually be surmounted.

The accuracy of existing North Korean ICBM and intermediate-range ballistic missiles is also an open question. Nevertheless, while inaccurate missiles may not be credible threats against small counterforce targets, such as certain military facilities, they are undoubtedly credible against countervalue targets. In addition, North Korea's short-, medium-, and intermediate-range ballistic missiles have demonstrated the capability to place a wide range of regional targets—population centers and large military bases in South Korea, Japan, and probably Guam—at risk. North Korean scientists will surely work to improve the accuracy of medium- and long-range missiles, providing additional targeting options.

They will also focus on improving survivability of their nuclear arsenal. Despite the high cost of building a credible sea-based nuclear deterrent capability, North Korea seems committed to developing submarine-launched ballistic missiles (SLBMs). Beginning in late 2014, it conducted several land and submerged ejection tests of the Pukkuksong-1 (KN-11) missile. And satellite imagery from 2017 shows continuing work on a second submersible missile test barge and a submarine to carry ballistic missiles.¹⁶ North Korea has made considerable progress in improving the mobility and readiness of its

land-based missiles. It has redeveloped medium-range missiles to replace older liquid-fueled engines with solid-fueled ones and has tested various models of transporter erectors and transporter-erector-launchers for moving missiles to launch bases. This fast pace of development seems to be the product of an extensive missile industrial infrastructure that North Korea spent decades to build. Having steadily accumulated the necessary technologies, engineering experience, and human capital, there are few, if any, key missile components that the country needs to acquire through foreign assistance or procurement. This makes the future development of North Korea's missile capabilities less susceptible to external influence and therefore subject primarily to policy and strategy imperatives determined by North Korean officials.

Besides nuclear warheads and delivery vehicles, a state seeking to operationalize its nuclear arsenal requires a range of additional enabling capabilities. Little is known about the command, control, and communication (NC3) of North Korea's nuclear forces, but its development of such NC3 systems presents real dilemmas. On the one hand, North Korea's Kim Jong-un clearly wants to deliver a message to the outside world that he is in total control of nuclear weapons and therefore other countries should not overreact to unjustified concerns of incidental or unauthorized use of the weapons. In past statements, for example, Kim emphasized the importance of the "safe operation of [a] nuclear attack system" and "a unitary system of command and control over nuclear force."¹⁷ On the other hand, facing an increasing threat of so-called decapitation operations from U.S. and South Korean forces, the North Korean leadership might have a strong incentive to delegate launch authority for nuclear weapons to operational-level military officials to ensure retaliation. North Korea's NC3 dilemma will be further exacerbated if it deploys sea-based nuclear forces in the future. Compared with land-based missile forces, it is much harder to establish robust NC3 connections between the national command authority and ballistic missile submarines on patrols at sea.

In addition to securing effective command and control over nuclear weapons, North Korea is making efforts to improve its nuclear forces' ability to execute missile strikes under battlefield conditions. For instance, reports in 2017 indicated that North Korea carried out trainings and exercises to prepare to conduct salvo launches of ballistic missiles against potential regional military targets.¹⁸

Capabilities that North Korea has developed to employ its nuclear weapons and integrate its nuclear forces into its overall military planning and operation have not been as widely analyzed in the analytic community but deserve additional careful examination.

Possible Future Nuclear Developments

Looking to the future, the specific nuclear capabilities North Korea will develop, test, and field should provide important indicators about its strategic

objectives—beyond how it characterizes those objectives in official communications. If North Korea stays on its current trajectory, it will likely continue to invest in more survivable strategic nuclear weapons, such as solid-fueled ICBMs carried on transporter-erector-launchers, and to increase its arsenal of such missiles. But a 2017 U.S. Defense Department report assesses, for example, that North Korean activities and rhetoric may suggest it “seeks to achieve a capability that goes beyond minimal deterrence to one that could provide greater freedom of action for North Korean aggression or coercion against its neighbor.”¹⁹ It is quite possible after obtaining a sufficient strategic nuclear deterrent capability, North Korea could shift its focus to developing small-yield, short-range nuclear weapons that are more useful for offsetting conventional military imbalance on the battlefield. Close monitoring of such activity should yield a better understanding of North Korea’s strategic goals and trends in its military behavior. That said, as observed in other states with nuclear weapons programs, many other factors can influence the makeup and scope of a nuclear arsenal, such as technology advancements and competition among military services for a larger share of the nuclear mission.

In particular, considering possible North Korean employment of nuclear weapons, it is important to assess a broader range of factors that might influence its decisionmaking. For instance, if the gap in conventional military capabilities between North Korea and the U.S.-ROK and U.S.-Japan alliances continues to grow, or if North Korea perceives its nuclear assets to be at risk of a conventional preemptive attack, Pyongyang may threaten nuclear first use during a conventional conflict, even if it has a general interest in avoiding nuclear escalation. North Korea’s lack of strategic position in geographical terms is another important factor that might encourage early employment of nuclear weapons. Such non-nuclear factors need to be considered together with North Korea’s growing nuclear capabilities.

The opacity of North Korean strategic decisionmaking increases the likelihood that analysts, in particular those in different countries, may draw varying conclusions about North Korean intentions from the same information. Comments by officials from East Asian states suggest that divergent views exist on even basic issues such as North Korea’s nuclear and missile capabilities, let alone more complex questions about objectives and behavior. For example, Russian officials have presented much lower missile range assessments following some North Korean tests than those provided by the United States, South Korea, and Japan. And among Chinese and Russian security experts, there is also a sense that Western assessments of North Korea’s nuclear capabilities have been consistently exaggerated. In this regard, international expert dialogue could help prevent disagreements from undermining cooperative efforts in response to North Korea’s threatening behavior.

Forecasting North Korea's Nuclear Objectives

North Korean statements and behavior over time suggest a series of potential overlapping external political and military aims.²⁰ Some of these (for example, international recognition) pose political challenges for Seoul and Washington, whereas others (for example, limited conventional military attacks backed by nuclear threats) create profound deterrence and reassurance problems for the U.S.-ROK alliance. Even if North Korea is less likely to attempt its riskiest or most challenging objectives, political discourse in the United States and South Korea demonstrates clearly that policymakers still worry about them.²¹ For instance, it is not uncommon to hear senior policymakers opine that North Korea intends to use nuclear weapons to fulfill its ultimate goal of reunifying the Korean Peninsula under its flag.²²

One of the most significant challenges in forecasting how North Korea might use its nuclear weapons is teasing apart the connections between objectives and weapons development activities. Applying evidence from one domain to support analysis in another is a speculative exercise and easily prone to mirror-imaging or other forms of bias. Below are a range of plausible, potential objectives based on North Korea's past statements, actions, or other evidence—regardless of whether Pyongyang currently possesses the necessary and sufficient nuclear capabilities to achieve each objective. The objectives are listed according to ascending level of risk that North Korea's actions would serve to escalate a provocation. (For the sake of simplicity, how North Korea's reported chemical and biological weapons capabilities might factor into this equation is not considered, but most analysts recognize that these weapons also constitute a major element of North Korea's deterrent threat.)

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Deter Preventive or Preemptive Strikes

One of North Korea's most explicit objectives in employing its nuclear arsenal would probably be to deter any U.S. preventive or preemptive strikes that might threaten regime survival. Since North Korea cannot deny the United States the ability to carry out such strikes, peacetime deterrence is based almost entirely on Pyongyang's ability to deliver an unacceptable punishment in response. If the United States conducted preventive strikes, especially in support of regime change, North Korea could launch nuclear attacks against South Korea, Japan, and U.S. military forces stationed in the region, and possibly the United States itself.²³

However, North Korea does not seem to regard this objective as especially critical to its nuclear strategy since non-nuclear capabilities have long been the

central pillar of its peacetime deterrence against U.S. or South Korean strikes. North Korea deploys a large number of long-range artillery and rocket forces in protected positions along the Military Demarcation Line. In many ways, these non-nuclear capabilities are more credible as a peacetime deterrent than North Korean nuclear forces.²⁴ Though North Korean nuclear use could invite nuclear retaliation from the United States and spell the end of the Kim regime (perhaps one of the few clear and consistent signals U.S. officials have communicated to North Korea over the years), non-nuclear punishment may not. In any case, North Korea's nuclear capabilities certainly complicate U.S. planning for preventive or preemptive strikes (and diminish the already low probability that such attacks would be carried out), even if that is not North Korea's primary objective.²⁵ North Korea's peacetime deterrence is therefore likely to rely primarily on conventional forces, and nuclear forces will play a supplementary and largely psychological role.

Normalize Relations with the United States and Japan

North Korea has historically used its nuclear and missile capabilities as leverage to improve and ultimately seek to normalize diplomatic relations with the United States and Japan. The U.S.–North Korean Agreed Framework of 1994

included “formal assurances” against the threat or use of nuclear weapons by the United States. It also mandated that the United States and North Korea “move toward full normalization of political and economic relations.” The Six-Party Joint Statement adopted in 2005 affirmed that the United States had no intention to attack or invade North Korea with nuclear or conventional weapons and that the two countries would take steps to normalize their relations. It also included a provision for North Korea and Japan to take steps to normalize their relations.²⁶ Though none of these agreements reached fruition, they clearly

demonstrate Pyongyang's past willingness to leverage nuclear capabilities for improved relations, presumably with the ultimate hope of a peace treaty and security assurances. The details of the bargain changed with each negotiation, but all the agreements involved constraints on nuclear and missile activities and a promise of future denuclearization.

Will North Korea seek to bargain again now that it has a demonstrated weapons capability? Official North Korean statements make it clear that Pyongyang seeks recognition as a nuclear-armed state and treasures its nuclear weapons.²⁷ At the same time, North Korea's development of improved nuclear and missile capabilities after the breakdown of the Six-Party Talks in 2008 could, in theory, provide greater bargaining leverage. For instance, it is plausible that North Korea could agree to negotiate an arrangement that caps the size and scope of its nuclear arsenal in return for improved relations and sanctions relief.²⁸

North Korea's peacetime deterrence is therefore likely to rely primarily on conventional forces, and nuclear forces will play a supplementary and largely psychological role.

The most important question is whether a *modus vivendi* exists between two strongly held positions: North Korea's intent to retain nuclear capability at all costs and the United States and its allies' policy that denuclearization be the objective of negotiations.²⁹

Deter Responses to Low-Level Provocations

Possession of nuclear weapons could embolden North Korea to carry out more frequent, more lethal, or riskier low-level military provocations against U.S. and South Korean military forces. Such a scenario might emerge as a result of a "stability-instability paradox," in which stability at the level of strategic deterrence decreases the probability for conflict escalation, which, in turn, encourages adversaries to undertake actions that lead to instability at the tactical and operational levels of warfare.³⁰ Though the United States is likely to take further steps to limit vulnerability to North Korean attacks, including by deploying more missile defense systems, North Korea's ability to target the United States does create a new kind of mutual deterrence.³¹ In this circumstance, North Korea could feel confident that its nuclear weapons would restrain U.S. and South Korean retaliation options against any North Korean tactical provocations.³²

North Korea has a long history of such provocations, typically tied to a specific political, military, or diplomatic objective.³³ The most egregious of these acts—the attempted assassination of South Korean president Park Chung Hee in 1974 and the seizure of the USS *Pueblo* in 1968—occurred many decades ago. Since Kim began his rise to power in 2009, North Korean provocations have included sinking a South Korean Navy corvette, shelling a South Korean island in 2010,³⁴ and placing landmines along the path of a regular South Korean military patrol in the Demilitarized Zone in 2015. The specific objectives behind such actions remain opaque—whether they were to increase Kim's domestic political prestige, provoke a crisis that forces diplomatic intervention by outside powers, or achieve specific military aims.

Since nuclear weapons increase the risks associated with conflict escalation from such provocations, North Korean leaders could be tempted to instigate low-level attacks to harass South Korea and keep U.S. and South Korean military forces on the defensive. This would place new stress on, and challenge the credibility of, South Korea's proactive deterrence military posture, which aims to discourage North Korean attacks through a promise of manifold retaliation rather than a proportional response. It might also induce the United States to pressure South Korea not to escalate in retaliation, creating additional strain on the U.S.-ROK alliance. If these attacks were to occur regularly, they could potentially cause significant damage to South Korea's economy and domestic political divisions, while North Korea would remain largely unaffected.

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Decouple U.S. Alliances With South Korea and Japan

The United States' ability to deploy surge military forces and equipment onto the Korean Peninsula during an incident is critical to fulfilling its defense commitment to South Korea. By threatening to attack key logistics nodes on U.S. bases in the region, as well as the U.S. mainland,³⁵ North Korea could attempt to deter the United States from sending reinforcements and defending South Korea by all necessary measures—thus weakening the United States' credibility. Long term, such threats could drive the United States out of the region.

However, absent other actions by North Korea, extreme tensions in the U.S.-ROK relationship, a surprise U.S. preventive attack on North Korea, or a complete retrenchment of the United States from global security commitments,

the mere threat implied by North Korea's nuclear capability is insufficient to decouple the U.S.-ROK and U.S.-Japan alliances. If the threat was complemented by more aggressive gray-zone or limited military operations that the United States was unable or unwilling to defend South Korea against, then a breakdown of the alliance becomes more plausible.

South Korean political discourse in recent years has recognized this possibility, prompting some South Koreans to advocate an independent nuclear weapons capability instead of relying on a questionable U.S. nuclear umbrella.

³⁶ Relatedly, South Koreans are manifestly worried about a U.S. decision to carry out limited strikes on North Korean nuclear targets without sufficient regard for the potential consequences that might befall South Korea. Though such actions may have deterrent value, they raise further questions for South Koreans about the costs of the U.S.-ROK alliance, particularly if Washington adopts a more aggressive posture toward North Korea than is comfortable for Seoul.

Change the Territorial or Political Status Quo

North Korea could attempt to launch a short and limited war to capture territory (for example, islands in the West Sea), destroy South Korean infrastructure, or target the government to weaken it politically and/or economically. Following such an attack, North Korea could threaten nuclear use on South Korean or U.S. territory to deter any U.S.-ROK reprisal. And similar to the prior potential objective, this could serve to decouple the allies.³⁷ An attempt to change the status quo would raise the stakes through more overt aggression and the threat of nuclear first use.

A nuclear-first-use concept is particularly vexing for partners in extended nuclear deterrence relationships. It plays directly against the central weakness of such alliances: the credibility of the outside defender to live up to its

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commitment through a willingness to accept damage to its territory. This dynamic has long existed in the United States' and North Atlantic Treaty Organization's (NATO) planning for contingencies involving Russia and Eastern Europe.

Reunify the Peninsula

The most ambitious and risky objective North Korea might seek to achieve with nuclear weapons is a spectacular reunification of the Korean Peninsula under its leadership.³⁸ Extending the logic of the two prior objectives, in this scenario, North Korea could threaten nuclear strikes on the United States and Japan to attempt to keep them on the sidelines, unable to reinforce or resupply the South Korean military. Pyongyang could then launch a large-scale, conventional military assault, perhaps augmented by chemical weapons or a small number of nuclear weapons, to achieve a level of unacceptable damage while leaving open the threat of total devastation—and thus force South Korea's capitulation.

An audacious and risk-acceptant objective such as this is difficult to evaluate from a capabilities point of view. North Korea's military is large and possesses numerous strike platforms, though it lacks the necessary modern, mechanized mobile forces to undertake a rapid thrust and occupation. The logistics and coordination challenges for such an operation would be immense. And North Korean leaders would need to believe they had sufficient and credible nuclear capabilities to deter U.S. and Japanese intervention. In this regard, Kim's risk perception seems more important than any specific military or nuclear capability that North Korea might require to pursue this objective.

As North Korea's capabilities and strategies evolve, U.S., South Korean, and Japanese officials will likely consider additional options to deter North Korean action and/or deny it the coercive benefits of nuclear weapons.

Deterrence Environment on the Korean Peninsula

Deployment of the THAAD system to protect U.S. forces stationed in South Korea was one option to bolster deterrence against a growing North Korean nuclear threat. As North Korea's capabilities and strategies evolve, U.S., South Korean, and Japanese officials will likely consider additional options to deter North Korean action and/or deny it the coercive benefits of nuclear weapons. Each option will have varying repercussions for the region. Some may deepen security dilemmas, whereas others may alleviate them. But before examining the range of military options available to the United States, South Korea, and (in some cases) Japan, it is useful to assess how the deterrent environment on the Korean Peninsula has evolved.

The combined military capability and posture of South Korea and the United States has historically deterred North Korea from attempting to reunify the Korean Peninsula by overt, large-scale military force. This condition is liable to endure, despite North Korea's acquisition of nuclear weapons. However, it is plausible, and perhaps even likely, that North Korea will use its expanding nuclear capabilities for coercive purposes in pursuit of some of the aforementioned objectives.³⁹ Decisionmakers in allied states should at least prepare for this possibility, given the record of North Korean aggression.

In the decades following the Korean War, North Korea planned and carried out specific military actions—over 1,000 according to one estimate—that were not credibly deterred by the threat of a U.S.-ROK military response.⁴⁰ Washington and Seoul were deeply embarrassed by many of these actions, such as the capture of the USS *Pueblo* in 1968. Attacks like the sinking of the South Korean ship *Dangpo* resulted in numerous casualties. On two occasions, North Korean special operations forces nearly decapitated the South Korean government. The majority of North Korea's most aggressive and daring acts occurred between the mid-1950s and 1980s, when it enjoyed economic and military support from the Soviet Union and, at least over the first half of this period, a superior balance of forces vis-à-vis South Korea.

Even as North Korea's economic and strategic circumstances worsened and it became far weaker than South Korea in the 1990s, it continued to carry out periodic military operations and other provocations against South Korea. These included multiple naval skirmishes along the so-called Northern Limit Line in the West Sea, two intense battles around Yeonpyeong Island, and the test-launch of a multistage ballistic missile over Japan.⁴¹ And despite an array of punitive international sanctions and the United States' and South Korea's vague threats of military preemption and regime change, North Korea continued to conduct nuclear and missile tests and to augment its nuclear arsenal after its first nuclear test in 2006.

Why did U.S.-ROK efforts fail to deter North Korean provocations—most of which occurred before Pyongyang possessed nuclear weapons sometime in the mid-2000s? The reasons are undoubtedly complex, and understanding of them is limited by the opacity of North Korean decisionmaking. Most likely it was because Washington and Seoul chose not to respond directly or swiftly to North Korea's attacks, fearing the consequences of conflict escalation.⁴² Some may also contend that the attacks were calibrated to stay below a threshold of aggression that would likely trigger a response—essentially to see how much North Korea could get away with.⁴³

Arguably, strengthening the joint capabilities of the South Korean and U.S. militaries—including through the establishment of the Extended Deterrence Policy Committee in 2010 and the Combined Counter-Provocation Plan in 2011—narrowed the scope of nondeterred actions to what are often termed provocations (actions intended to underscore a political or diplomatic objective).

Some provocations are tactical, such as the shelling of Yeonpyeong Island in 2010, and mostly aimed at the South Korean military. In 2011, South Korea began to formulate a proactive defense strategy to immediately respond to tactical incidents with sufficient firepower to raise the costs to North Korea. It is noteworthy, though not determinative, that there has not been another North Korean tactical provocation of similar scale since the 2010 Yeonpyeong attack.

Other provocations are more strategic, such as the development and testing of ballistic missiles that can target U.S. forces deployed in the region and now even the continental United States. A crucial challenge in assessing North Korean behavior and capabilities is finding the sweet spot between underestimation and overestimation. Underestimation may lead the United States and South Korea to employ insufficient deterrent responses, increasing the probability of miscalculation on both sides. Overestimation may lead the United States and South Korea to be unnecessarily deterred from certain responses or it may drive responses that North Korea or other countries in the region perceive as an increased military threat.

Continuing to complicate an assessment of the deterrence environment are the political contexts in Seoul, Washington, Beijing, and Tokyo, especially since the presidential transitions in South Korea and the United States in the first half of 2017. South Korean President Moon Jae-in has pursued an ambitious engagement agenda with North Korea but still supports the development of enhanced defensive measures to protect against North Korean coercion. Meanwhile, U.S. President Donald Trump has vowed to sustain maximum pressure on North Korea while also keeping open the option for dialogue. The potential for a political split between Seoul and Washington is significant. They have different incentives and face different threat levels—which puts pressure on U.S. extended deterrence commitments to South Korea. Seoul's calculus is also complicated by China's perceived role in the crisis, which has included punishing South Korea economically for acceding to U.S. requests to deploy THAAD. South Korea has also been squeezed by Washington's push to renegotiate the bilateral free trade and alliance burden-sharing agreements—actions that suggest an uncoordinated U.S. strategy toward South Korea or, worse, a willingness to leverage South Korean security concerns for U.S. economic gains. Meanwhile, the Trump administration's 2018 Nuclear Posture Review highlighted growing strategic competition with China, which undoubtedly affects Chinese perceptions of U.S. actions around the Korean Peninsula. For all three governments, especially South Korea's, managing the competing domestic, regional, and strategic pressures is a daunting proposition and ultimately constrains response options to North Korea's new capabilities.

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Regardless of which of the aforementioned objectives North Korea might pursue, its nuclear and missile developments offer new opportunities for coercion, blackmail, or bargaining. The security challenge for the United States and South Korea will continue to grow over the next decade, unless negotiations result in a new agreement to freeze, cap, or otherwise constrain North Korea's nuclear arsenal. Any new alliance strategy must aim to deter a broader range of aggressive North Korean behavior if Pyongyang indeed becomes emboldened

by the perceived power of nuclear weapons. Calibrating responses to such behavior must include reconciling what might successfully deter North Korea with the need to manage escalation should deterrence fail. The most difficult challenge posed by North Korea's nuclear weapons is the possibility that Pyongyang believes it can achieve its objectives by raising the inherent risk of nuclear use in any crisis.

Here, it is useful to recall the concept of escalation dominance, an arcane Cold War term that describes a circumstance when "a combatant has the ability to escalate a conflict in ways that will be disadvantageous or costly to the adversary while the adversary cannot do the same in return, either because it has no escalation option or because the available options would not improve the adversary's situation."⁴⁴ If North Korean leaders fear for their survival, they might risk using nuclear weapons first, perhaps in a limited way on the Korean Peninsula or against U.S. forces in the region. A RAND study on this issue concluded that "under these circumstances, the weaker side has, in a sense, achieved escalation dominance. . . . Pyongyang can credibly threaten to use nuclear weapons against a range of assets valued by its adversaries because decision makers in Washington and Seoul know that Kim and company may perceive that they will be no worse off than they already are should the United States retaliate in kind."⁴⁵ By raising the possibility that it might use nuclear weapons first in an escalating crisis—to avoid losing them to U.S. preemption or to prevent regime change—Pyongyang could achieve escalation dominance and thus deter U.S. and South Korean retaliation.⁴⁶ The alliance would need to develop a coordinated approach to deny North Korea these perceived benefits.

In sum, and considering the potential range of North Korean coercive objectives, allies face a considerable challenge in formulating a comprehensive and cohesive deterrence strategy. The strategy must be sufficient to (1) deter North Korea from attempting to reunify the peninsula by force, (2) mitigate North Korea's fears of regime change, (3) and prevent an attack that might provoke early North Korean nuclear use. But it must also consider North Korean tactical provocations and other diplomatic initiatives designed to manipulate international concerns and gain North Korea recognition or support. The strategic goal, therefore, should be to deny North Korea the opportunity to fulfill its

objectives by maximizing the potential effectiveness and credibility of deterrence options. And to achieve this goal, these options should be tailored to the spectrum of conceivable North Korean aggression both before and during a potential conflict.

Enhanced Deterrence Options

North Korea's advancing nuclear arsenal, unless constrained by an agreement, is likely to provoke changes in the capability, military posture, or alliance operations of South Korea, the United States, and (in some cases) Japan. What options could the allies consider to strengthen their deterrence of North Korea amid the complex environment described above?

The United States and South Korea possess significant military capabilities, deployed on and around the peninsula to deter North Korean aggression. Pyongyang holds a quantitative edge in total number of troops in uniform and some categories of conventional weaponry, but the quality of U.S. and South Korean military capabilities, backed by the U.S. nuclear arsenal, is clearly superior. Even so, as the nuclear threat from North Korea has grown over the last decade, South Korea and the United States have introduced and evolved new capabilities and operational concepts to address perceived deterrence gaps. For instance, in 2013, South Korea and the United States began to implement a comprehensive 4D (detect, defend, disrupt, and destroy) strategy to counter North Korean missiles.⁴⁷ To bolster the detection and defense elements of this strategy, Seoul has begun to construct an improved missile defense platform, the Korea Air and Missile Defense (KAMD) system. The offensive elements utilize a growing arsenal of precision strike capabilities to disrupt or preempt a North Korean missile attack (termed the Kill Chain system), to decapitate the North Korean leadership, or to destroy other high-value targets (termed the Korea Massive Punishment and Retaliation, or KMPR, strategy). The United States is also investing in more capable missile defense systems to protect the U.S. homeland and forces deployed in the region. Procurement for these programs is ongoing.

However, there is clearly concern in Seoul and Washington that the pace of North Korean nuclear development, coupled with the North Korean leadership's propensity for provocation and risk-taking, requires a more robust deterrence approach than is provided by existing and planned capabilities and concepts. For example, in 2012 and again in 2017, South Korean officials sought and received U.S. permission to extend the range and payload of its ballistic missiles. Seoul and Washington also agreed to upgrade alliance consultation mechanisms to take a more holistic approach to deterrence—for example, by establishing a ministerial-level meeting involving the defense and foreign ministers of the countries, as well as an extended deterrence strategy and consultation group in 2015.⁴⁸ And, prior to the inauguration of the Moon

government, some South Korean officials also expressed interest in the United States stationing strategic assets in Korea on a rotational basis; some even raised the issue of redeploying U.S. tactical nuclear weapons on the Korean Peninsula. All of these developments are indicative of a shared perception that additional measures are required to prevent North Korea from using its nuclear weapons capacity to achieve its objectives.

In reflection of the current deterrence environment and defense discourse in South Korea, the United States, and Japan, a hypothetical set of options to strengthen deterrence can be drawn. These options are not the product of an exercise in which neither politics nor funding present limitations, but rather they extend the bounds of existing discourse and capabilities. Defense analysts in these three countries already support some options, such as strengthening South Korean missile defenses. Other options would garner greater favor in Washington than Seoul, such as increasing the coordination and integration of South Korean and Japanese efforts to create something closer to a trilateral alliance. Conversely, others would garner more support in Seoul than Washington, such as establishing a nuclear planning committee that would give South Korea a larger role in the planning and execution of U.S. nuclear operations. Finally, some options would have little political support in either capital but might become more acceptable in the future—depending on the course of North Korean relations—such as increasing the number or types of U.S. military forces stationed in South Korea.

To reiterate, the principal purpose of listing these options is to explore whether and how various U.S.-ROK steps might create security-related ripple effects in the region—not to present a comprehensive assessment of how these options are viewed in either Seoul or Washington and not to argue for or against any one particular approach (however, some brief thoughts on the latter are offered in the conclusion). The list is not exhaustive, of course, but illustrates the types of options that could be further developed and employed. What might be considered practicable and acceptable is clearly a moving target. Even during the short term of this project, some options that were initially considered unreasonable suddenly entered mainstream discourse, such as redeploying U.S. tactical nuclear weapons. This means that even the most ambitious or unlikely options considered below should not be ruled out a priori.

Attacking Targets in North Korea

Enhancing capabilities to carry out targeted strikes in North Korea could strengthen deterrence by raising both the threat of punitive and unacceptable damage to North Korea and the credibility of precision counterforce targeting to limit damage from a North Korean nuclear attack. Options for South Korea and the United States could include

- increasing the numbers of deployed South Korean and U.S. precision and prompt strike platforms, including land- and sea-based systems and a fleet of armed unmanned aerial vehicles (UAVs);
- deploying ordnance (for example, the Massive Ordnance Air Blast) for striking hardened targets; and
- fielding new intelligence, surveillance, and reconnaissance (ISR) capabilities to improve real-time tracking of targets in North Korea.

Defending Against North Korean Attacks

To address concerns that North Korea might attempt more frequent and/or more lethal operations—whether to provoke frequent crises or to instigate a limited war—South Korea and the United States could expand their defensive capabilities to raise the risks and costs to Pyongyang. Options could include

- deploying additional U.S. forces on the Korean Peninsula and augmenting surge capabilities predeployed elsewhere in the region;
- upgrading the U.S. Navy presence at Jinhae or Pusan (for example, by establishing the rotational stationing of littoral combat ships or Zumwalt-class destroyers);
- consolidating a layered South Korean missile defense (for example, with additional Sejong the Great-class destroyers equipped with the Aegis combat system); and
- upgrading artillery and rocket defenses with an Iron Dome-like system around Seoul and deploying additional counter-battery capabilities.

Augmenting Nuclear Capabilities

North Korea's supposed ability to strike the United States with ICBMs raises fears in South Korea that Washington may not come to Seoul's defense if it means risking a nuclear strike on U.S. territory. Many South Korean analysts and politicians and some U.S. counterparts have argued that one way to address both the deterrence and reassurance aspects of this problem is to enhance the visibility of the nuclear element of the U.S.-ROK alliance. For instance, one former senior South Korean official argued that "reinforcing extended nuclear deterrence could serve as an equalizer to counteract the strategic imbalance of the North's nuclear monopoly and leverage to help negotiate away its nuclear weapons in future nuclear disarmament talks."⁴⁹ In recent years, the United States has occasionally deployed "strategic assets"—code for nuclear-capable aircraft and submarines—to South Korea and conducted nuclear bomber flights over the Korean Peninsula during military exercises. But such symbolic displays of force seem to have diminishing reassurance value, leading

to calls in South Korea for additional steps. A few politicians and analysts have even called for South Korea to develop an independent nuclear capability. Enhanced nuclear options could involve (listed in order of ascending ambition and challenge)

- augmenting the existing Extended Deterrence Strategy and Consultation Group to engage South Korea more directly in discussions around nuclear operations;
- upgrading secure U.S. storage and operations infrastructure in the region in preparation for the forward deployment of tactical nuclear weapons to bolster existing strategic nuclear capabilities;
- deploying U.S. tactical nuclear weapons on South Korean territory; and
- establishing a nuclear-sharing arrangement, similar to the NATO model, in which U.S. nuclear weapons would be delivered by South Korean dual-capable aircraft, such as the F-35.

Bolstering Trilateral Security Cooperation

The three-party U.S. alliance structure (U.S.-ROK and U.S.-Japan) in East Asia is effectively a triangle without a base, given the low profile of ROK-Japan bilateral security cooperation. Festering historical grievances dating to the Japanese occupation of Korea prior to World War II are frequently invoked by politicians in both states for domestic audience purposes, complicating even basic efforts to upgrade information sharing and other necessary elements of trilateral security cooperation. However, in a contingency with North Korea, Japan will automatically be involved given the U.S. bases on its territory and would therefore also be a likely target of a North Korean attack. If the parties can overcome their political differences, options to strengthen deterrence could include

- conducting joint exercises (for example, for interdiction or other crisis contingencies);
- creating a standing defense coordination structure; and
- integrating and networking missile defense capabilities into a regional system.

Conducting Asymmetric Operations

Deterring low-level provocations and preventing escalation should deterrence fail are difficult challenges for the U.S.-ROK alliance. Instead of using direct fire in retaliation to North Korean military provocations on land or at sea, the United States and South Korea could develop and employ more robust asymmetric responses, such as

- conducting offensive cyber operations to cripple the North Korean internet or interdict North Korean internet traffic flowing through China and Russia; and
- expanding the scope, scale, and responsiveness of social information warfare.

Additional options could complement or supplement all of those above, but these are sufficiently illustrative for the purposes of this discussion. Before pursuing any of them, however, allies would need to consider several key issues. First, though the Korean War suggests that the military theater on the Korean Peninsula should favor defense, over time, the balance has shifted perceptibly in the direction of offense. The distances to major military, political, and strategic targets are now relatively shorter and air, sea, and land vectors are more readily available. This means that it is relatively easier for allies to tailor offensive capabilities to change the military balance. But, to an extent, the same holds true for North Korea, particularly because of its massive arsenal of conventional weaponry arrayed north of the Demilitarized Zone. Options to defend against these weapons—as well as North Korea’s burgeoning ballistic missile capabilities—will be costlier and relatively less effective at changing the military balance than offensive strike options. However, compared to the Korean War period, South Korea has much more to lose from a conflict today and thus displays considerable political risk aversion that tends to devalue offense. And North Korea has taken credible steps to improve the survivability of its military and nuclear forces, which mitigates the effectiveness of offensive measures.

Second, there are many reasons for South Korea and the United States to utilize their combined advantage of precision strike platforms and real-time ISR capabilities to implement an offensive damage limitation strategy. For example, it could lower North Korea’s confidence in the successful use of nuclear weapons to end a conflict on its terms, thus enhancing deterrence.⁵⁰ But, alternatively, it could increase the use-or-lose pressure perceived by North Korean leaders, with a pernicious net effect of exacerbating the crisis and creating incentives for escalation.⁵¹

Third, there are varying implications for general and specific deterrence and potential tradeoffs among the options as they relate to the prioritization of threats. On the one hand, if allies give first priority to strengthening peacetime deterrence, then enhancing their defensive denial and counterforce damage limitation capabilities could be most effective. On the other hand, punitive South Korean military options (for example, the Korea Massive Punishment and Retaliation plan or the decapitation operations plan) and U.S. nuclear capabilities that threaten vital North Korean interests probably have a less

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general deterrent effect, assuming Pyongyang doubts the allies would employ these capabilities except under the most extreme circumstances. If the top priority is avoiding escalation and strengthening interwar deterrence, then punitive countervalue options that threaten North Korean leadership targets will probably be more effective. But, in this circumstance, augmenting precision capabilities to target North Korean nuclear forces could actually undermine interwar deterrence by raising North Korea's incentive to use nuclear weapons early in a crisis to avoid losing them.⁵²

Fourth, some options could strengthen deterrence by manipulating the military balance, or at least North Korean perceptions of it, while others might work by affirming that the United States will come to South Korea's defense under any circumstance—essentially by putting more U.S. “skin in the game.” Options that amplify military effects probably have fewer ancillary benefits in reassuring South Korea of the credibility of the U.S. security commitment. But options that would clearly reaffirm U.S. commitment—such as additional U.S. military forces stationed on or around the peninsula—will raise other challenges, including burden sharing, domestic political opposition, and fears of alliance entrapment.

Finally, views on these options in other capitals will also influence how South Korea and the United States opt to proceed. Leaders in Tokyo and Beijing, in particular, but also in Moscow, London, and Paris will no doubt air their concerns about regional security, crisis stability and arms race stability, and deterrence and extended deterrence implications.

Implications for Japan

The evolving deterrence environment on the Korean Peninsula has both direct and indirect impacts on Japan, given that the country also faces threats from North Korea. Though South Korea and the United States have clear primary responsibility for managing contingencies on the peninsula, Japan has been a quiet secondary contributor in two important ways: by hosting U.S. military bases and by assigning Japan's Self-Defense Forces a mission to support U.S. forces during a Korean contingency. The extent of Japan's role has evolved over time, pushed and pulled by domestic and regional politics, the evolution of the North Korean threat, and particular anxieties in Tokyo and Seoul. The greatest source of uncertainty in Japanese security policy at this point derives from how events on the Korean Peninsula will evolve, and, in turn, how they will affect the United States' role as a security and alliance partner.

By virtue of the parallel U.S.-ROK and U.S.-Japan alliance system established following World War II, Japan's security is necessarily tied to the Korean Peninsula. During the Korean War, Japan hosted main operating bases for U.S. forces fighting in support of the United Nations Command and South Korea. In a future contingency on the Korean Peninsula, the United States

would no doubt utilize some combination of the air force bases in Misawa, Yokota, and Kadena; naval bases in Yokosuka and Sasebo; naval and marine air bases in Atsugi and Iwakuni; and the marine air station in Futenma.⁵³ In turn, Japan's Self-Defense Forces would conduct operations to protect these bases from North Korean attacks. Japan has spent about \$18 billion on missile defense systems, which protect not only Japanese citizens but also U.S. military personnel and bases in Japan.⁵⁴ And Japanese ground forces are trained to protect U.S. bases against enemy special operations forces.

Over time, Japan has increased its commitment to supporting U.S. forces that would be deployed during a Korean contingency. In 1997, the United States and Japan agreed that Japan's Self-Defense Forces would provide noncombat support to U.S. forces in "situations in areas surrounding Japan (SIASJ)," a coded term referring most importantly to Korean contingencies. The resulting SIASJ law, enacted in 1999, allows Japanese forces to provide intelligence, transport, maintenance, medical, and other support to U.S. forces operating in defense of South Korea.⁵⁵ In the past few years, the Japanese govern-

ment has further strengthened this commitment. In particular, the government's reinterpretation of the constitution in 2014 made it possible for Japan to start exercising the right of collective self-defense. Based on this change, the Diet—the Japanese legislature—enacted new security legislation in 2015 that enables the Japanese defense force to provide combat support to U.S. forces.⁵⁶ Moreover, it permits Japan to shoot down North Korean ballistic missiles targeted at Guam or Hawaii, to conduct anti-submarine warfare operations to protect U.S. naval forces, or to sweep mines in the waters near North Korea in preparation for U.S. amphibious landing operations.

In making these policy changes, Japan is now more exposed to a future North Korean crisis, which has created domestic political complications and further tensions in Japan-ROK relations. In 1969, then Japanese prime minister Eisaku Satō characterized the security of South Korea as "essential" to Japan's own security and said that Japan would allow the United States to use facilities and areas within Japan "positively and promptly" in a contingency.⁵⁷ At least officially, the Japanese government still holds this position, but it requires the United States to consult the government before using bases in Japan for combat operations on the peninsula. In July 2014, Prime Minister Shinzo Abe spoke directly to this issue: "The U.S. Marines staging to assist [South Korea] would be operating from Japan. Obviously, this would require prior consultation, so Japan would need to agree to them going if they were to go over to aid the South Koreans."⁵⁸ These remarks indicate that Japan's position has become more reserved, moving slightly away from the blanket commitment made by Satō forty-five years earlier: Japan would be willing to assist with South Korea's

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defense, but there could be limits on what this might involve. Not surprisingly, the South Korean government objected vehemently to Abe's remarks. A South Korean military official stated, "U.S. forces stationed in Japan are designed to provide rear-area logistic support and strategic support and, therefore, will be automatically committed [to the defense of South Korea] during contingencies on the Korean Peninsula."⁵⁹

If war breaks out on the Korean Peninsula, Pyongyang will no doubt demand that Tokyo not allow U.S. forces to use its bases and not commit Japanese forces to the defense of South Korea. This threat will put Japanese leaders in a difficult position, inevitably creating tensions in the U.S.-Japan relationship. This possibility is already slowly undermining the credibility of U.S. extended deterrence in the region supported by the U.S.-Japan alliance.

Strengthening Defense

As the North Korean nuclear and missile threat grew over the last decade, Japan undertook two particularly important defensive measures intended to bolster the security of Japanese territory and U.S. bases and to improve its ability to deny North Korea coercive leverage during a crisis.

The first measure was the deployment of a two-tiered ballistic missile defense system: the sea-based Standard Missile Three (SM-3) Block IA Aegis system and the land-based Patriot Advanced Capability Three (PAC-3) system. Japan has spent about \$16.8 billion so far to purchase these systems from the United States.⁶⁰ It plans to further strengthen its missile defense capabilities by acquiring the SM-3 Block IIA and PAC-3 Missile Segment Enhancement interceptors and the land-based Aegis Ashore equipped with SM-3 interceptors. Some Japanese security specialists also believe that development of a boost-phase missile defense system using manned and/or unmanned aircraft armed with air-to-air missiles would be a promising next step and a potential area for U.S.-Japan defense collaboration.

The second measure was the installation of a civil-defense early-warning system. Installed beginning in 2007, the Emergency Information Network (Em-Net) system will provide text-based warning information, while the J-Alert system will automatically generate early-warning voice messages and siren signals in case of a missile attack. The Japanese government sponsored a civil defense exercise based on the missile attack scenario for the first time in March 2017. North Korea's active missile launch operations have prompted Japan to become better prepared for such missile-related contingencies.

Beyond these defense measures, Japanese analysts are debating the acquisition of additional strike capabilities to conduct counterforce operations against North Korean missiles and missile bases. In 2004, the Council on Security and Defense Capabilities in the New Era, an advisory group to the Japanese prime minister, recommended that the government investigate the option of building the capability to strike enemy missile bases (including studies of weapons

systems, operational concepts, cost-effectiveness, and appropriate roles and mission sharing with the United States).⁶¹ The Japanese government has already decided to acquire the Joint Strike Missile and to study the feasibility of integrating the Joint Air-to-Surface Standoff Missile with its F-15 fighter jets.⁶² It thus seems likely that Japan's potential capability to strike targets inside North Korea will grow over time. This is due in no small part to concern by Japanese policymakers and security specialists that in a future contingency, U.S. strike capabilities will be directed primarily at North Korean missiles targeting Guam, Hawaii, Alaska, and the continental United States, leaving Japan to take care of the medium-range missiles that would target Japanese territory.⁶³ The Japanese public seems to support this thinking. According to a public opinion poll conducted in 2017 by the *Sankei Shimbun* and Fuji News Network, 53.8 percent of respondents viewed the acquisition of strike capabilities positively, while 38.2 percent viewed it negatively.⁶⁴ However, the decision to acquire strike platforms has not been settled at this point.

Japanese defense experts believe that North Korea's ICBM tests in 2017 and concomitant concerns about alliance decoupling have elevated the importance of U.S. nuclear capabilities for extended deterrence. Thus, they are generally satisfied with the outcome of the 2018 U.S. Nuclear Posture Review. During the prior review process in 2009, some Japanese officials and experts supported retaining the Tomahawk nuclear-tipped cruise missile as an important element of U.S. extended deterrence to Japan. They were dismayed when the administration of former U.S. president Barack Obama opted to retire the Tomahawk system.⁶⁵ The 2018 Nuclear Posture Review calls for development of a new nuclear submarine-launched cruise missile, as well as other low-yield nuclear options. Some Japanese specialists believe that low-yield nuclear missiles in particular provide an important damage limitation capability against North Korea's mobile missile forces.

Interestingly, Japanese security policymakers and specialists do not regard other potential adaptations of the U.S. nuclear posture in the region—specifically the reintroduction of tactical nuclear weapons to South Korea—as wise. Tactical nuclear weapons might provide some additional reassurance to the South Korean people and moderately enhance the credibility of U.S. extended deterrence in Asia, but Japanese experts believe they would become high-priority targets for North Korean attacks and would need robust security measures. Further, the redeployment of tactical nuclear weapons (whether in South Korea or elsewhere in the region) would divert resources away from supporting more useful and effective conventional capabilities. And they would provide another convenient excuse to North Korea to maintain its nuclear forces. Defense analysts in Japan note that although some South Korean conservative politicians

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and experts support their reintroduction, liberals do not. As a result, the likelihood of it happening is not that high, at least under the Moon administration.

Though Japanese experts are generally comfortable with the actions taken by South Korea and the United States to strengthen defenses on the Korean Peninsula, some are concerned by South Korea's growing cruise and ballistic missile capabilities. According to some sources, South Korea has already deployed more than 1,000 cruise and ballistic missiles,⁶⁶ and under an agreement with the United States, Seoul can extend the range of its ballistic missiles to 800 kilometers without any limit on payload weight.⁶⁷ Missiles with that range could also reach major cities in Japan. South Korea's missile capabilities are clearly not a threat to Japan at this time, given that they are targeted exclusively at North Korea and will be operated under the U.S.-ROK combined forces command. However, if tensions on the peninsula resolve, the continued existence of such capabilities will provoke concern in Japan. Regardless, Japanese officials believe that the South Korean government should explain its ballistic missile capabilities, operational concepts, and strategic rationales more clearly to Japan.

Developing Trilateral Defense Cooperation

In the face of Japan's potential entanglement in a Korean contingency and the need to support and protect U.S. bases, the preferred strategy for many Japanese analysts is to bolster U.S.-ROK-Japan trilateral defense cooperation. Japanese experts believe this strategy would not only help to enhance Japan's deterrence of North Korea but also keep South Korea more closely allied with the United States.

Japanese experts favor a trilateral defense approach for three primary reasons. First, they believe that enhanced cooperation could lead to improvements in the effectiveness of missile defense systems. Since Japan is now permitted to

exercise the right of collective self-defense, Tokyo would like to participate more closely in intelligence sharing with Washington and Seoul concerning missile defense. Japan recognizes that South Korea is in a better position to detect North Korean missile launches given its numerous radar installations and sensors in the vicinity of North Korean missile launch sites. Thus, missile defense cooperation among South Korea, the United States, and Japan

would greatly enhance Japan's ability to defend itself and, in turn, remain committed to the defense of South Korea even in the face of a potential North Korean attack. South Korea would therefore also be contributing to Japan's defense, making Japan-ROK defense cooperation more reciprocal in the eyes of Japanese experts.

Second, Japan wishes to plan and coordinate noncombatant evacuation operations with South Korea. In response to heightened tensions on the Korean

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Peninsula in recent years, Japanese policymakers have expressed an urgent need to make arrangements to secure Japanese citizens living or travelling in South Korea during possible contingencies. Thus far, the South Korean government has not been forthcoming, apparently because temporarily accepting Japanese military transport aircraft in South Korea could create political problems and even discussing such operations could heighten the sense of crisis, possibly damaging the South Korean economy. Yet without standing arrangements for noncombatant evacuation operations, the Japanese government might opt to order a premature evacuation of Japanese citizens, which would most certainly lead to the exact outcomes South Korea is concerned about.

Third, Japan seeks to strengthen trilateral cooperation around planning, training, and exercises in preparation for a crisis or war. The theory is that unless such cooperation is practiced during peacetime, it will never be effective during real contingencies. Improving the coordination of support and logistics inside the Korean Theater of Operation will be particularly important. If Japan acquires the ability to conduct strike operations against North Korean missiles and missile sites in wartime, it will be even more imperative for the three countries to jointly plan when and how such capabilities could be utilized.

Beyond these three primary reasons, some Japanese experts believe that improved U.S.-ROK-Japan cooperation could reduce the likelihood of the United States dramatically moderating its defense commitment to South Korea. Although the likelihood remains low, they are somewhat concerned by Trump's isolationist rhetoric and see a trilateral alliance approach as one way to mitigate such sentiments.⁶⁸

Some Japanese experts also believe that improved U.S.-ROK-Japan cooperation could help insulate South Korea from pressures related to great power competition between the United States and China. Even with U.S. and Japanese backing, South Korea has proved to be extremely vulnerable to Chinese pressure, which could become harsher in the future. Japanese analysts worry this could potentially force South Korea to compromise on its security or even become neutral. Although developing a stronger trilateral defense structure might actually invite additional Chinese pressure, Japanese experts believe that, on balance, it would enhance South Korea's ability to stand up to Chinese coercion.

Chinese behavior toward South Korea is clearly aimed at stymying Seoul's potential participation in trilateral defense cooperation. South Korea's important trade relationship with China—12 percent of South Korea's national revenue comes from its exports to China (not including Hong Kong)⁶⁹—gives China considerable leverage, which Beijing is taking advantage of by linking economic and security issues. Faced with strong pressure from China over the

Chinese behavior toward South Korea is clearly aimed at stymying Seoul's potential participation in trilateral defense cooperation.

THAAD issue, South Korea effectively pledged that it would not allow the United States to deploy additional missile defense assets in South Korea; that it would not become part of the U.S.-led missile defense system; and that it would not allow U.S.-ROK-Japan security cooperation to develop into a tripartite alliance.⁷⁰ Although transforming U.S.-ROK-Japan security cooperation into a tripartite alliance mechanism remains unrealistic anyway, the economic realities of China-ROK trade ties and China's intention to prevent further integration have made it difficult for South Korea to work more closely with the United States and Japan, even on lower-level issues.

Looking Beyond the Korean Peninsula

For Japan, the implications of the evolving security environment around the Korean Peninsula are increasingly inseparable from concerns about maintaining a regional balance of power, especially in the face of a rising China. Japanese security policy reforms are driven by both issues. Tokyo is strengthening defense capabilities through its participation in international joint arms development programs and by allowing for a more expansive role in collective self-defense. It is also working to strengthen its relationship with Washington, including through the revision of the U.S.-Japan Defense Cooperation Guidelines.⁷¹ And Japan is bolstering its security partnerships with other countries in the region, especially South Korea, Australia, Southeast Asian nations, and India.

South Korea holds an important position in Japan's security strategy. South Korea's defense spending increased significantly in the last year.⁷² As its military capabilities grow, Japanese experts believe South Korea will be able to effectively deter North Korea and also take on a broader regional security role. However, as noted earlier, South Korean officials have been reticent to strengthen security cooperation with the United States and Japan on missile

defense or noncombatant evacuation operations. And politics in South Korea make it difficult for the South Korean military to engage in trilateral combined planning, exercises, and training. For this reason, the United States and Japan have been working to highlight the importance of Japan's contributions to South Korean security.⁷³ To this end, both governments organize regular tours for South Korean security policymakers, specialists, and journalists to visit U.S. bases in Japan, including the United Nations Command (Rear) at Yokota Air Base.

Recognizing that trilateral defense cooperation may be unrealistic, some Japanese experts are considering an alternative approach that delineates regional security responsibilities more clearly: for instance, South Korea would play a larger role in countering the North Korean threat, while the United States and Japan would focus primarily on addressing the challenges posed

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by China. A role-sharing arrangement like this could make sense, particularly if the strategic environment on the Korean Peninsula remains relatively consistent and North Korea does not seek to realize the most ambitious potential objectives associated with its nuclear weapons development. South Korea could handle—without major support from the United States, let alone Japan—most of the tactical and operational provocations that North Korea might undertake. In fact, most security specialists in Japan believe that South Korea could militarily defeat North Korea even in a large-scale conflict. Of course, the likelihood of such a war breaking out on the Korean Peninsula is low in the first place. However, given how entangled Japanese security is with security on the Korean Peninsula and how U.S.-China strategic competition is likely to grow in the region, such a division in security responsibilities may not work well in practice.

Implications for China

China has long held deep suspicions about U.S. strategic intentions on the Korean Peninsula. Many Chinese experts suspect that the United States' goal is to just keep the North Korean nuclear problem under control, rather than resolve it: Washington would thus have an excuse to maintain its military presence and security alliances in the region, which could be used for other strategic interests, such as containing China.

Fundamental disagreements between mainstream Chinese and U.S. experts contribute to this suspicion. For example, most Chinese experts believe North Korea's nuclear program is primarily aimed at safeguarding regime survival and achieving strategic deterrence. They do not think North Korean leaders have any incentive to use nuclear weapons for purposes other than deterring or retaliating against a major military invasion. They also do not foresee North Korea becoming emboldened to conduct more destabilizing activities at the conventional military level. Therefore, Chinese experts are skeptical of any U.S. assessment that deems strengthening deterrence against North Korea an urgent security issue for the United States and its allies. And they tend to view such U.S. deterrence efforts as potentially driven by hidden objectives.

Chinese experts are generally less skeptical about South Korea's claim that it feels threatened by North Korea's nuclear capabilities. This is partly because China does not see any major South Korean interest in deliberately playing up the North Korean nuclear threat. Nor does it believe that South Korea seeks to contain China. That said, many Chinese experts still dismiss the possibility of North Korea using nuclear weapons against South Korea in the absence of a serious threat or major conflict. They do not believe that deterring North Korea will be a major problem in the future and tend to disagree with South Korean arguments about the necessity of strengthening its deterrence posture.

This skepticism greatly influences how Chinese experts view potential U.S. and South Korean military deployments. Therefore, efforts to prevent China from reacting aggressively to such deployments are likely to remain futile for the foreseeable future. More realistic aims could include gaining a better understanding of Chinese concerns and adopting some targeted measures to mitigate some of them—which, in turn, could help attenuate further deepening of distrust. Stemming the negative action-reaction dynamics between China on one side and the United States and South Korea on the other is becoming an urgent strategic priority for all three countries.

Guarding Against a Perceived Military Threat

China largely views advances in U.S. and South Korean military capabilities as a direct threat to its security. South Korea—in support of its Kill Chain system and KMPR strategy—is developing and deploying advanced weapons for both preemptive and retaliatory strikes. But from China’s perspective, some of these weapons exceed the capabilities needed to deter North Korean attacks and could pose a threat to key Chinese targets. Chinese experts most often cite the Hyunmoo-2 ballistic missiles (especially the newest Hyunmoo-2C with a range of up to 800 kilometers) and the Hyunmoo-3C cruise missiles with a range of up to 1,500 kilometers.⁷⁴ The latter group of missiles could easily reach major parts of northeastern, northern, and eastern China, including major cities like Beijing and Shanghai. Also, there are unconfirmed reports that South Korea is developing a Hyunmoo-3D cruise missile with a range approaching 3,000 kilometers—though the rationale for a missile with this range is not yet clear—as well as a Hyunmoo-4 ballistic missile that could deliver a larger payload out to 800 kilometers.⁷⁵ Chinese analysts see these developments as cause for even greater concern.

Similarly, China worries that South Korea’s enhanced capacity to gather military intelligence will be utilized against not just North Korea but also China (and perhaps Russia). South Korea is introducing advanced U.S. intelligence gathering platforms, including four RQ-4 Global Hawk unmanned surveillance aircrafts, that could also peek into Chinese territory from a standoff distance.⁷⁶ Moreover, intelligence sharing among South Korea, the United States, and Japan is increasing. The three countries signed a trilateral intelligence-sharing pact in 2014 to better monitor North Korean nuclear and missile capabilities; and later, in 2016, South Korea and Japan signed a bilateral agreement to institutionalize intelligence cooperation.

Above all, China views South Korean and U.S. missile defense deployments as the most tangible threat at a strategic level. Many Western analysts believe that China is not genuinely concerned about forward-deployed missile

Stemming the negative action-reaction dynamics between China on one side and the United States and South Korea on the other is becoming an urgent strategic priority for all three countries.

defense systems such as THAAD.⁷⁷ However, this is not the case. Mainstream Chinese experts strongly believe that systems like THAAD pose a real and serious threat to China's key security interests, especially by undermining the credibility of its strategic nuclear deterrent. They believe that the radars of such systems can monitor Chinese airspace and missile tests during peacetime and could track and relay the flight trajectories of Chinese ICBMs to U.S. homeland missile defense systems in the event of a U.S.-China conflict.⁷⁸ Although disputed by most Western experts, this technical assessment seriously affects Chinese views of U.S. and South Korean strategic intentions. If the United States and its allies take further steps that result in a capable missile defense against China's strategic nuclear weapons, Chinese experts fear that this may enhance the United States' perception of its relative strength and lead to more intense efforts to coerce China on other strategic issues—such as those related to Taiwan, the South China Sea, and the Diaoyu/Senkaku islands.

China also perceives a direct and growing threat to its maritime interests. As U.S. forces in South Korea have shifted focus from defending the North-South border to establishing a more balanced distribution of capabilities on land and at sea, some Chinese experts worry that this is part of a larger U.S. plan to counter China's maritime military capabilities in the Yellow Sea and the East China Sea.⁷⁹ When large-scale military exercises are conducted in Chinese coastal waters, such as the Yellow Sea (the “entrance” to China's heart), China fears that its most strategically important locations—including Beijing and Tianjin—are fully exposed to potential military maneuvers from advanced U.S. surface ships and even aircraft carrier groups. Chinese experts widely interpret such strategic pressure directed at China as a deliberate and hostile signal from the United States and its allies.⁸⁰

Other Chinese concerns include the use of U.S. military tactics around the Korean Peninsula to interfere in China's domestic affairs, such as those related to the mainland and Taiwan. The United States has long sought to discuss North Korea policy coordination and contingency planning with China. But China continues to decline these requests partially because it does not want the United States to feel that it has the right to conduct similar military interference in other potential regional contingencies, such as one over Taiwan.⁸¹ In this sense, Beijing views Washington's possible actions on the Korean Peninsula as potentially threatening to its core security interests over other issues.

A less immediate concern of China's is the U.S.-ROK effort to strengthen extended nuclear deterrence since North Korea's first nuclear test in 2006. On the one hand, many Chinese experts are worried about the reintroduction of U.S. tactical nuclear weapons to the peninsula, as well as the call by some South Korean politicians and ordinary citizens to develop indigenous military nuclear capabilities. Some Chinese experts believe South Korea likely has some interest in obtaining a virtual nuclear capability—not to openly build nuclear weapons but to possess a certain level of technical capability to do so through

the acquisition and development of dual-use technologies. On the other hand, many Chinese experts recognize that there are various South Korean domestic and intra-alliance obstacles to such scenarios, at least in the near term.

A large number of Chinese experts believe that it is the United States, rather than South Korea, that has been pushing for the redeployment of U.S. tactical nuclear weapons behind the scenes.

Finally, there is a common misunderstanding about the impetus for strengthening U.S.-ROK extended nuclear deterrence. A large number of Chinese experts believe that it is the United States, rather than South Korea, that has been pushing for the redeployment of U.S. tactical nuclear weapons behind the scenes. They believe that the United States has an inherent interest in further enhancing its strategic military superiority in the East Asia region against China and Russia. It is unclear, though, why they think the redeployment would meaningfully enhance the

U.S. nuclear posture and how such weapons might be used against China. However, the prevalence of such concerns points to the degree of China's distrust toward U.S. strategic intentions in the region.

Preventing Escalation and Arms Race Dynamics

More broadly, China worries that some U.S. and South Korean military capabilities and postures will increase the risk of escalation and an arms race in the region, raising the probability of a war occurring on China's doorstep. Despite South Korea's emphasis on the defensive nature of military strategies such as the KAMD and KMPR, some Chinese experts point out the difficulty in distinguishing between defensive and offensive capabilities. In many cases, the same weapons are used for both purposes—preemptive strikes and defense against enemy strikes. For example, the South Korea's Aegis ships reportedly carry AN/SPY-1 radars, SM interceptors, and some Hyunmoo-3B land-attack cruise missiles.⁸² The radars and interceptors are important elements of the defensive KAMD strategy, whereas the cruise missiles can be used for preemptive strikes against North Korea as part of Kill Chain capabilities. In another example, South Korea's F-15K aircrafts and the soon-to-be-introduced F-35A aircrafts are key components for both the KMPR strategy and the Kill Chain system.⁸³ Such integration of defensive and offensive weapons could create misunderstanding around South Korea's military intentions and lead to North Korea's overreaction if they were to be deployed in a crisis. And Chinese experts are concerned that such an overreaction could inadvertently escalate the situation. In particular, with the introduction of U.S.-ROK Operations Plan (OPLAN) 5015,⁸⁴ China worries that the advancement in U.S. and South Korean capabilities and readiness to launch quick attacks and retaliation against North Korea—exacerbated by public statements by South Korean politicians about simulating decapitation operations against the North Korean leadership—greatly increases the risk of North Korea taking early countermeasures to carry out a rapid and forceful response. China, whose stated top priority is to prevent

war and maintain stability, fears that these developments increase the probability of a small military incident escalating quickly out of control, which would also make it harder for China to help manage future crises in the region.

Regarding the risk of an arms race, Chinese experts generally believe that North Korea does not have plans for building a massive nuclear arsenal. However, the South Korean Kill Chain system and KMPR and KAMD strategies may pose a real threat to the survivability and credibility of North Korea's nuclear deterrent capability, thus driving North Korea to further invest in a better and larger nuclear capability than necessary. At the conventional military level, South Korea's development of increasingly powerful fast-attack conventional weapons may also motivate North Korea to follow suit and pursue similar capabilities. Many Chinese experts worry that such a long-term arms race on the peninsula will spill over and also destabilize China's security environment.

There is also a concern that China itself would be drawn into the arms race. Although there is domestic debate about whether South Korea intends to deliberately help the United States undermine China's key security interests by allowing Washington to deploy missile defense systems like THAAD, most Chinese experts agree that such systems affect China's strategic deterrence capability. Therefore, China would have to make additional investments and further build up its nuclear capabilities regardless of its original intention.

Counterbalancing the U.S. Alliance System

China has long viewed the U.S.-led security alliance system in East Asia as its greatest geostrategic threat. Therefore, any regional development that might strengthen the U.S. alliance system is viewed with serious concern. In this regard, extended cooperation between the United States and South Korea to enhance their deterrence capabilities against North Korea would raise at least three major issues for China.

First, many Chinese experts believe that such extended cooperation would inevitably increase Seoul's dependency on Washington. For instance, for the Kill Chain system to work effectively, South Korea needs more advanced intelligence, surveillance, and reconnaissance capabilities and is unlikely to be able to independently acquire them in the near to medium future. And these capabilities will be especially important if North Korea continues to improve the rapid response capability of its missile forces by, for example, putting solid-fueled missiles on transporter-erector-launchers. In this situation, South Korea would have to detect a missile attack within one minute of its launch and identify the target within the next minute, as envisioned under the Kill Chain plan.⁸⁵ Chinese experts worry that South Korea has few other options than to depend on U.S. intelligence sharing.

Similarly, for the KAMD strategy, South Korea already relies heavily on U.S. technologies like the Aegis sea-based system and PAC land-based system

and plans to introduce even more advanced U.S. systems in the future.⁸⁶ Aside from the technology itself, Chinese experts believe that other substantial support from the United States will be required, such as peacetime technical assistance and upgrades, logistical maintenance, real-time intelligence sharing, and battlefield command and control management. In the case of the THAAD system, although South Korea sought to reassure China by making a political commitment to never join a U.S.-led regional missile defense network, such a promise does not seem very convincing to many Chinese experts who predict an inevitable integration of the South Korean and U.S. missile defense systems at the operational level.

They [Chinese experts] believe that with greater control over South Korea's foreign and security policy, the United States may seek to use South Korea in its overall strategy to contain China (and Russia).

Many Chinese experts fear that the United States will increasingly leverage this dependence to influence Seoul's foreign and security policy. For instance, they suspect that Washington deliberately insisted on deploying the THAAD system in South Korea to create a schism between Seoul and Beijing. They believe that with greater control over South Korea's foreign and security policy, the United States may seek to use South Korea in its overall strategy to contain China (and

Russia).⁸⁷ Because of the perceived impact THAAD could have on a U.S.-China regional conflict, some Chinese experts fear that, ultimately, Beijing might have to conduct military preparations to strike THAAD systems in South Korea. Such preparations would inevitably damage the Sino-ROK relationship, and Chinese experts would rather see Beijing deepen security cooperation between China and South Korea to maintain regional peace and stability.

Second, some Chinese experts believe that recent U.S. efforts to strengthen its security alliance with South Korea are motivated by broader interests—such as maintaining the United States' image as a dominant power in the Asia Pacific region. In their view, the United States has conducted massive military exercises near the peninsula not only to answer North Korean provocations but also to demonstrate its unmatched military power to other countries in the region. Such a zero-sum approach to China's relationship with the U.S.-led alliance seems popular among Chinese experts.

Chinese experts are particularly concerned about the impact of a stronger U.S.-ROK security alliance on other neutral countries. On one hand, China is South Korea's most important trading partner, and Chinese analysts believe that Seoul has benefited considerably from its close economic relationship with Beijing. On the other hand, South Korea's strong security cooperation with the United States on missile defense undermines China's key security interests. Thus, in response to the THAAD deployment, Beijing sent a strong message to other regional countries that they cannot benefit from close economic ties with China and also work with the United States on military and security issues as a counterbalance.

Third, some Chinese experts worry that stronger U.S.-ROK security cooperation will lead to a de facto trilateral security alliance among Washington, Seoul, and Tokyo. Japan and South Korea already operate many similar defense platforms purchased from the United States, including advanced UAVs, fighter jets, and various missile defense systems. In some cases, Japan has played an important role in developing technologies such as the SM-3 missile defense system that South Korea is reportedly considering.⁸⁸ Such common military hardware and technologies would provide a solid technical and operational basis for a NATO-like trilateral security alliance, and Chinese experts fear that it would strengthen Tokyo's role in regional security and help Japan's strategic transition into a "normal" military power.

They also worry that South Korea's development of long-range strike weapons could directly motivate Japan to augment its own strike capabilities. Japanese policymakers may have reservations about South Korea obtaining ballistic missiles and medium-range cruise missiles due to the troublesome historical relationship between Seoul and Tokyo. More importantly, Tokyo may simply be encouraged by Seoul's successful acquisition of such capabilities and become more determined to acquire them as well. Given China's long-existing distrust of Japan, this scenario would likely exacerbate Beijing's concern about a remilitarized Japan and cause China to readjust its future security policy planning accordingly.

Taking Active Measures

China is already responding to some of these issues. The most striking example, as noted earlier, is China's strong retaliation against deployment of the THAAD system in South Korea. The tug of war between Beijing and Seoul eased after the Moon administration promised not to join the U.S.-led missile defense network, deploy additional THAAD batteries, or form a trilateral alliance with Washington and Tokyo. With this agreement, Seoul managed to retain the existing deployed THAAD battery base and Beijing decided to move on. While this seems to be a satisfactory outcome, China's perception about the negative impact of THAAD on its security has not changed. Chinese experts generally believe that Beijing made this political decision—and major concession—to avoid further damaging its political relationship with Seoul. They have since widely recommended strengthening China's strategic deterrent and long-range strike capabilities to neutralize the impact of THAAD—for example, by enlarging China's existing nuclear and missile arsenals and developing more advanced countermeasures against missile defense, including more sophisticated warhead penetration aid and hypersonic vehicle technologies.

In response to the THAAD deployment, Beijing sent a strong message to other regional countries that they cannot benefit from close economic ties with China and also work with the United States on military and security issues as a counterbalance.

The previous Chinese campaign to impose political and economic pressure on South Korea over THAAD did not produce the desired outcome. Without openly acknowledging the policy failure, some Chinese experts seem to now believe that, in a future similar dispute, instead of engaging the other parties to take China's concerns into proper account, China should consider taking direct and strong military countermeasures, such as developing and deploying more threatening systems. In other words, it should force the other parties to come to China for serious negotiations.

It is uncertain how widespread or influential this thinking is at the government level, but there is a clear trend to emphasize self-confidence in China's own policy practice and to shift toward a more assertive foreign policy. Enhancing China's leadership role in regional and global affairs has become an unequivocally expressed goal. In the meantime, the United States, under the Trump administration, has started to systematically change its strategic orientation toward China and to designate it as a major rival and the biggest long-term geostrategic threat.

For the foreseeable future, China is likely to respond particularly strongly to at least four U.S.-ROK military deterrence options. First is the introduction of missile defense systems that could be perceived as capable of undermining China's strategic deterrent capabilities. Second is the deployment to the Korean theater of so-called strategic U.S. military platforms, such as aircraft carriers, nuclear submarines, and strategic bombers; the reintroduction of U.S. tactical nuclear weapons to the peninsula would probably cause the most acute form of anxiety. Third is the integration of advanced intelligence, surveillance, and reconnaissance capabilities that could look deep into China. And fourth is any military option that would contribute to a de facto trilateral security alliance among Seoul, Washington, and Tokyo. All these options could trigger a Chinese response and would complicate U.S.-China strategic stability. In contrast, U.S.-ROK cooperation to enhance deterrence of North Korean tactical provocations and conflict escalation would be less likely to exacerbate Chinese concerns.

Policy Recommendations

Despite the de-escalation of tensions since the beginning of 2018, the chances of North Korea voluntarily giving up its existing nuclear capabilities in the foreseeable future remain low. Perhaps protracted negotiations will bring a welcome stability, and ultimately a road to peace, but pending such a hopeful future, deterrence will remain the dominant security feature in the region. If that assumption holds, the THAAD dispute represents the beginning of a new security era in East Asia, in which North Korea's nuclear capability increasingly exacerbates serious security dilemmas for the United States, China, South Korea, and Japan. These countries must urgently work to simultaneously deter

a nuclear-capable North Korea from conducting destabilizing activities, prevent negative action-reaction cycles, and reduce the existing distrust among each other.

The expert communities in these countries are generally in agreement about North Korea's existing technical capabilities but not the likely trajectory of its future capabilities. There is even more debate about what objectives North Korea may seek to achieve with its nuclear weapons in the years and decades ahead. To ensure effective coordination and cooperation—and more importantly, mitigate existing security spirals—experts need to develop a common understanding of the likely threats and how they might manifest. In this regard, it would be highly valuable for South Korea and the United States to jointly reach out to China and share assessments and analysis of North Korea's nuclear objectives. This direct coordination could help bridge gaps in perception that would otherwise deepen mutual distrust and disagreement over how to respond to North Korea's behavior.

Among the response options discussed in this paper, some carry higher political or economic costs and all come with considerable trade-offs in terms of effectiveness, escalation risks, and regional impact. Military capabilities that can strengthen interwar deterrence and improve escalation management may undermine general deterrence in peacetime. Other efforts to improve certain military capabilities can introduce new domestic political or intra-alliance challenges, which, in turn, could undermine the overall credibility of deterrence. In evaluating the challenges associated with these options, the United States and South Korea must reach shared understandings and set clear priorities about potential North Korean behavior and the broader regional security environment. This will be essential to avoid miscalculations and worst-case escalatory responses.

The United States and South Korea should be wary of adopting offensive weapon systems that could contribute to both preemptive and retaliatory strikes. Such actions create ambiguity and potentially encourage North Korea to adopt more escalatory military postures or to invest in more asymmetrical capabilities in the long run. Similarly, future efforts to strengthen nuclear deterrence—especially through reintroducing U.S. tactical nuclear weapons to the peninsula or establishing some nuclear-sharing arrangement with South Korea—would have broad and long-term effects on the region. China would believe the goal of such actions to be much broader and therefore view them as a threat to its interests. Given the associated risks, these two options to enhance security cooperation should be last on the list for consideration.

The pervasive regional security tension between Japan and China and the growing U.S.-China great power competition also impact how officials in

To ensure effective coordination and cooperation—and more importantly, mitigate existing security spirals—experts need to develop a common understanding of the likely threats and how they might manifest.

Beijing and Tokyo view events on the Korean Peninsula. From Tokyo's perspective, keeping the United States deeply integrated in the regional security environment and maintaining the credibility of extended nuclear deterrence are primary objectives. Japan thus favors measures that increase trilateral defense cooperation or contribute to some regional security division of responsibility. Yet, any movement toward trilateral defense cooperation would cause great concern in Beijing, where policymakers perceive exaggerated reactions by the United States to the North Korean threat as an excuse to augment the U.S. regional alliance network for the purpose of containing China. These perceptions serve as a reminder that the competition for power and influence along the traditional line of political ideologies and geostrategic interests is endemic to East Asia.

The THAAD dispute illustrates how existing political distrust could seriously influence Chinese understanding of relatively neutral and technical issues and, in turn, how technical misperceptions could then contribute to even greater political distrust. When the United States, South Korea, and/or

Japan take additional steps to enhance deterrence capabilities against North Korea, opportunities abound for similar or even worse misperceptions to emerge—and China probably would take stronger retaliatory measures in the future. Such long-standing distrust is a reality to be faced and managed but will not be resolved overnight. Formal regional dialogues, when they happen, often paper over such deep-seated issues. Thus, a realistic goal for regional track 1.5 or track 2 dialogues is to deepen the understanding of technical and security concerns among the parties to better predict when and how tensions might manifest. And to help avoid negative outcomes based on

worst-case assumptions, regional experts could identify potential dispositive actions or information that could be incorporated into formal discussions or other confidence-building steps.

Against the background of rising major power rivalry, how to effectively deter a nuclear-capable North Korea is becoming increasingly complex and requires thinking far beyond isolated military matters. The THAAD episode could be a harbinger of a future in which rising insecurity on the Korean Peninsula spills over into the whole of East Asia. But that future is not determined. As efforts to negotiate and implement a denuclearization agreement with North Korea get under way, it is imperative that Seoul, Washington, Tokyo, and Beijing develop a more lasting framework for cross-regional dialogue. Addressing the interwoven regional and strategic challenges will help to avoid or mitigate future conflict in the region.

As efforts to negotiate and implement a denuclearization agreement with North Korea get under way, it is imperative that Seoul, Washington, Tokyo, and Beijing develop a more lasting framework for cross-regional dialogue.

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